We claim:

1. An optical coupler for coupling an optoelectronic device to an optical fiber, comprising:

an electrical connector ;

an optical transmission medium disposed proximate the electrical connector; and

an encapsulant surrounding at least a portion of the connector and at least a portion of the transmission medium.

2. The optical coupler of claim 1, wherein the transmission medium comprises fused fibers.

3. The optical coupler of claim 2, wherein the each of the fused fibers have a core diameter smaller than about 50 microns.

4. The optical coupler of claim 1, wherein the electrical connector includes a conductive lead having a first end and a second end, wherein the first end is disposed about ninety degrees from the second end.

5. The optical coupler of claim 1, wherein the encapsulant includes silica-filled epoxy material.

6. The optical coupler of claim 1, further comprising guide grooves configured to receive guide pins attached to fiber ribbon.

7. The optical coupler of claim 1, further comprising a ground plane formed on a lower portion of the coupler.

8. The optical coupler of claim 1, further comprising die attachment material to facilitate bonding of the connector to a substrate.

9. The optical coupler of claim 1, further comprising conductive tape configured to facilitate coupling the connector to an optoelectronic device.

10. The optical coupler of claim 1, wherein the electrical connector includes a conductive plug within a microelectronic device.

11. The optical coupler of claim 10, wherein the electrical connector comprises a plurality of conductive plugs within a microelectronic device.

12. An optical coupler comprising:

a waveguide;

an encapsulant surrounding at least a portion of the waveguide; and

at least one guide groove formed in the encapsulant, the at least one guide groove configured to receive a pin from a connector attached to a fiber ribbon.

13. The optical coupler of claim 12, further comprising an electrical connector formed at least partially within the encapsulant.

14. The optical coupler of claim 13, wherein the electrical connector comprises a lead of a leadframe.

15. The optical coupler of claim 13, wherein the connector comprises a wire.

16. The optical coupler of claim 12, wherein the waveguide comprises a plurality of optical fibers fused together.

17. The optical coupler of claim 12, wherein the waveguide comprises at least one fiber.

18. The optical coupler of claim 12, wherein at least a portion of the encapsulant comprises a transfer mold compound.

19. The optical coupler of claim 12, wherein at least a portion of the substrate comprises a ceramic material.

20. The optical coupler of claim 12, further comprising a substrate comprising electrical connectors formed as electrical traces and conductive plugs.

21. The optical coupler of claim 12, wherein the guide groove is formed of conductive material.

22. An optical transmission system comprising the optical coupler of claim 12.

23. An optical interconnect system comprising:

an optical coupler comprising a waveguide, an encapsulant, and an electrical connector formed at least partially within the encapsulant;

a fiber optic cable attached to the optical coupler; and

a substrate electrically coupled to the coupler.

24. The optical interconnect system of claim 23, wherein the optical coupler comprises a guide groove and the fiber optic cable comprises a guide pin configured to be received by the guide groove.

25. The optical interconnect system of claim 23, further comprising an optoelectronic device electrically coupled to the optical coupler, such that the optoelectronic device forms an electrical connection to the substrate and an optical connection to a fiber of the fiber optic cable.

26. The optical interconnect system of claim 25, wherein the optoelectronic device comprises a vertical cavity surface emitting laser.

27. The optical interconnect system of claim 25, wherein vertical cavity surface emitting laser is coupled to the optical coupler using flip-mounting technology.

28. The optical interconnect system of claim 25, wherein the optoelectronic device comprises a photodetector.

29. The optical interconnect system of claim 25, wherein the photodetector is coupled to the optical coupler using flip-chip mounting technology.

30. The optical interconnect system of claim 25, wherein the optoelectronic device comprises a vertical cavity surface emitting laser and the system further comprises a photodetector.

31. The optical interconnect system of claim 30, wherein the vertical cavity surface emitting laser is coupled to the optical coupler using die attach technology and the photodetector is mounted to the optical coupler using die attach technology.

32. The optical interconnect system of claim 25, further comprising solder interposed between the optoelectronic device and the optical coupler.

33. The optical interconnect system of claim 23, wherein the waveguide comprises a fused faceplate of a bundle of optical fibers.

34. The optical interconnect system of claim 23, wherein the electrical connector comprises a lead portion of a leadframe.

35. The optical interconnect system of claim 23, further comprising a transparent gel attached to a portion of the optical coupler.

36. A method of forming an optical coupler, the method comprising the steps of:

creating electrical connectors;

attaching a waveguide to the electrical connectors; and

encapsulating at least a portion of the electrical connectors and at least a portion of the waveguide.

37. The method of forming an optical coupler of claim 36, further comprising the step of forming guides.

38. The method of forming an optical coupler of claim 37, wherein the step of forming guides comprises bending a portion of a conductive plate to form a conduit.

39. The method of forming an optical coupler of claim 36, wherein the step of creating electrical connectors comprises providing a leadframe and bending the leads.

40. The method of forming an optical coupler of claim 36, wherein the step of creating electrical connectors comprises patterning a surface of a plate of conductive material, etching the plate of conductive material to form conductive leads, and bending the conductive leads.

41. The method of forming an optical coupler of claim 36, further comprising the step of polishing an end of the waveguide.

42. The method of forming an optical coupler of claim 36, further comprising the step of singulating.

43. The method of forming an optical coupler of claim 36, further comprising the step of coating an end of the electrical connectors with a conductive material.

44. The method of forming an optical coupler of claim 43, wherein the step of coating an end comprises attaching a conductive tape to an end.

45. The method of forming an optical coupler of claim 43, wherein the step of coating an end comprises plating conductive material on the end.

46. The method of forming an optical coupler of claim 36, further comprising the step of attaching guide sleeves to a portion of the electrical connectors.

47. The method of forming an optical coupler of claim 36, further comprising the step of forming a ground plane coupled to a portion of the electrical connectors.

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48. An optical transceiver comprising:

an electrical connector;

a photonics component flip-chip mounted attached to a first portion of the electrical connector;

a substrate attached to a second portion of the electrical connector;

an optical transmission medium made of fiber bundles disposed proximate the electrical connector;

an encapsulant surrounding at least a portion of the connector and at least a portion of the transmission medium; and

a guide groove formed within a portion of the encapsulant.

49. An optical transceiver comprising:

an electrical connector;

a photonics component flip-chip mounted to the electrical connector;

a transmission medium disposed proximate the electrical connector, the transmission medium comprising relay lens elements and anti-reflection coating;

an encapsulant surrounding at least a portion of the connector and at least a portion of the transmission medium; and

a guide groove formed within the encapsulant.

50. An optical system comprising:

an electrical connector;

a photonics components flip-chip mounted to a first portion of the electrical connector;

a printed circuit board electrical coupled to the electrical connector;

a transmission medium transparent in the visible and mid infrared regions of the radiation spectrum disposed proximate the electrical connector, the transmission medium comprising relay lens elements and anti-reflection coating; and

an encapsulant surrounding at least a portion of the connector and at least a portion of the transmission medium.

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51. An optical coupler for wavelength division multiplexing comprising:

an electrical connector;

a photonics component flip-chip mounted to the electrical connector;

a wavelength multiplexed transmission medium disposed proximate the electrical connector, the medium comprising relay lens elements and anti-reflection coating;

an encapsulant surrounding at least a portion of the connector and at least a portion of the transmission medium; and

a guide groove formed within the encapsulant..

52. An optical coupler for wavelength division demultiplexing comprising:

an electrical connector;

a photonics component flip-chip mounted to the electrical connector;

a wavelength demultiplexing transmission medium disposed proximate the electrical connector, the medium comprising relay lens elements and anti-reflection coating;

an encapsulant surrounding at least a portion of the connector and at least a portion of the transmission medium; and

a guide groove formed within the encapsulant..